

An Eco-Health approach to plant pathology in agricultural development: Smallholder cocoa

David Guest

Merrilyn Walton

John Konam

Grant Vinning

SYDNEY INSTITUTE OF
AGRICULTURE

SYDNEY SOUTHEAST ASIA
CENTRE



THE UNIVERSITY OF
SYDNEY

How do we motivate farmers to intensify production?



Uncertainty

- › Farmers face pressure from rapid social, environmental and economic changes
 - Labour shortages
 - Poor health and nutrition
 - Lack of market incentives
 - Rising costs for fuel, fertiliser etc.
 - Pests and diseases
 - Climate change
 - Declining soil fertility, water shortages
- › Constrained by past experience and lack of resources, skills and information



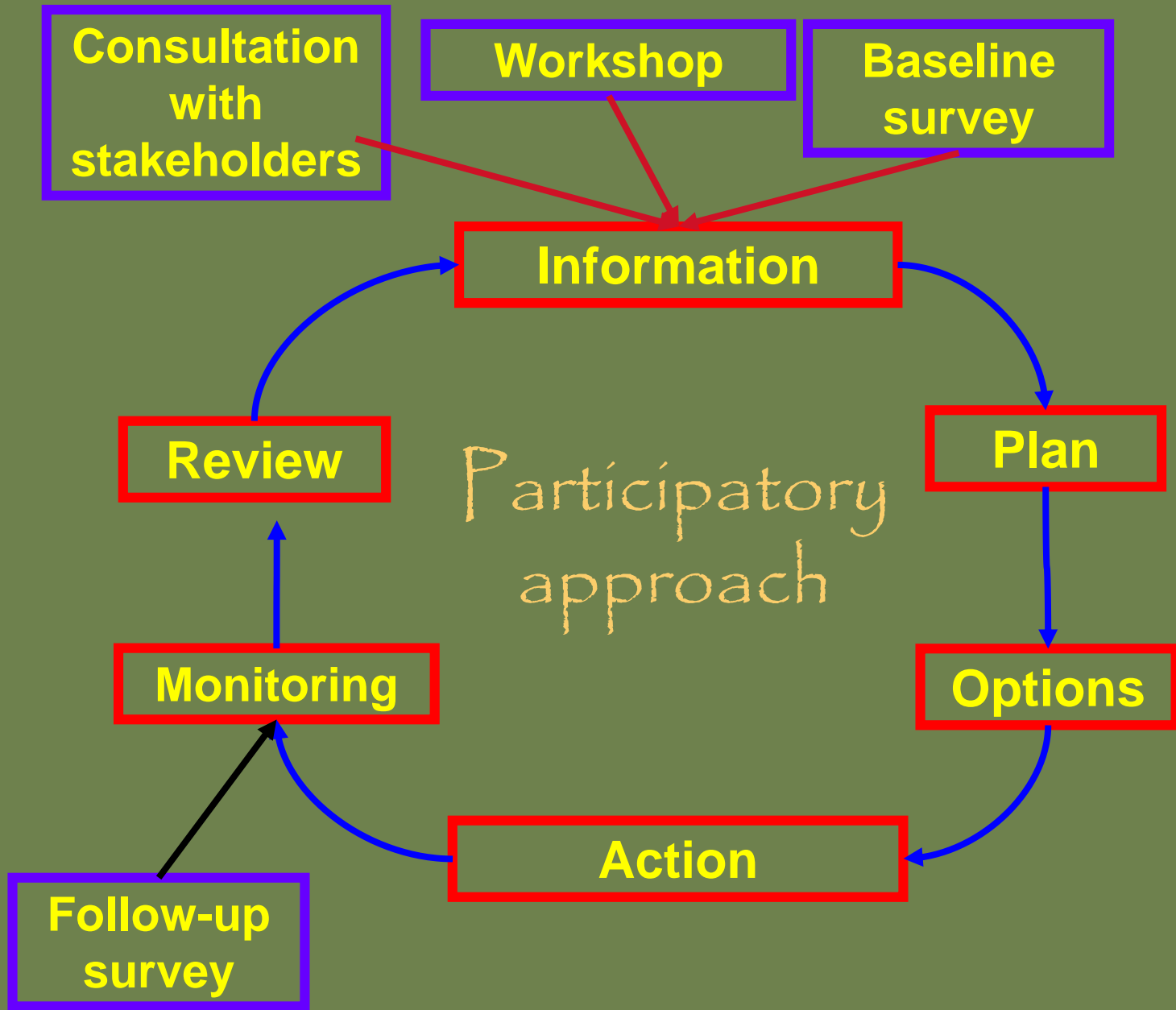
Options for improved management

Cocoa IPDM (Konam <i>et al.</i> 2008)	Low	Medium	High
Sanitation			
Weeding			
Pruning			
Canker treatment			
Weekly harvesting			
Manures			
Fertilisers			
Insect management			
Expected yield (kg/ha)	350	800	1,200

2 hours/day per ha

Conventional approaches

- › Extension depends on top down, spoon-fed solutions that:
 - Are all or nothing
 - Involve once-off visits
 - Are inflexible
 - Provide “Black-box” technology-driven solutions
 - Satisfy project milestones
 - Impacts rarely evaluated
- › *This approach alienates researchers and extension, and disempowers farmers*



Limitations

- › Farmers have plenty of training
- › Assumes spare labour and capital, but for cocoa farmers:
 - Minority (37% in Bougainville, 30% in Sulawesi) have bank accounts and limited access to loans
 - 53% report that their health limits work:

	Bougainville	Sulawesi
Back pain	43	34
Arthritis and joint pain	31	33
Recent malaria	20	0
Blurred vision	21	33
Teeth problems	20	33
Childhood stunting	68	50

Strategies for sustainable cocoa production

- › Intensification, diversification and equity
- › Interdisciplinary (*Eco-health*) approaches that include plant health, community health, education, business skills, marketing
 - Improve local research and extension skills and capacity
 - Appropriate research built on local knowledge, requirements and resources
 - Improve market access and profitability
 - Engage value chain



Thanks



Smilja Lambert

